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# Examination of college access and Science Bound's countdown to college: a model for engaging students of color in the college-going process

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**Examination of college access and Science Bound's countdown to college: A model  
for engaging students of color in the college-going process**

by

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A thesis submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

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Program of Study Committee:  
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Ames, Iowa

2015

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**ABSTRACT**

Inequalities in college access can be seen historically and in today's society through low expectations and racism towards students of color. The gap in access to college for students of color can, in part, be attributed to a lack of information and engagement in the college-going process. There is a need for programs that actively engage students of color in the college-going process.

The purpose of this thesis is to illuminate the history and inequalities of college access in the United States and present a model for creating college access for students and families of color that is both collaborative and empowering. Iowa State University Science Bound, and its Countdown to College Program, fosters college access for students of color. The Countdown to College model was developed by the Science Bound program as a way to engage students and families in the college-going process in order to increase students of color enrollment and persistence in college.

Countdown to College is an academic year-long program to create college access for students of color who participate in Science Bound. It is designed as a college-going community among Science Bound participants, many of whom will be the first in their family to enroll in higher education. This college-going community is comprised of the high school seniors and their parents/family members, Science Bound staff, and university enrollment staff. The Countdown to College program provides an ongoing series of large group, small group, and individual interactions among members of this college-going community throughout the students' senior year of high school to assist students and families in actualizing their college-going aspirations.



## **CHAPTER 1 INTRODUCTION**

Racism today is pervasive in American society, although it generally is not as demonstratively overt as it was during the time of legalized segregation (Delgado, 1995; Delgado, & Stefancic, 2012). Modern, everyday racism is more structural in nature, and in education often takes the form of low expectations and micro-aggressions (Allen, 2013; Delgado & Stefancic, 2012; Minikel-Lacocque 2013; Solórzano, Ceja, & Yosso, 2000).

Many studies indicate that classroom teachers have low expectations of academic achievement for students of color (Blanchett, 2006; Caton, 2012; Darling-Hammond & Friedlaender, 2008; Irizarry, 2012; Jussim, Eccles, & Madon, 1996; Ladson-Billings, 1997; Landsman, 2004; Solórzano & Ornelas 2002; Solórzano, 1997,). Teachers and school counselors also often possess low expectations of students' of color college-going aspirations (Irizarry, 2012; Ross, Kena, Rathbun, Kewal Ramani, Zhang, Kristapovich, & Manning, 2012). The seemingly normal, dominant culture perception and expectation among teachers and guidance counselors regarding students of color and college is: students of color are not going to go to college (Ross et al., 2012). As a result of these perceptions and expectations, students of color often do not receive crucial information, guidance, and support needed to enroll in college (Ross et al., 2012). A mechanism to interrupt and dismantle this norm of dominant culture is needed.

### **Statement of the Problem**

Current U.S. legal and social policies and practices regarding college access have emerged from a long history of denying and limiting higher education access for people of color while simultaneously providing virtually uninhibited access for White people

(Kluger, 1976). As a result, today engagement in the college-going process among people of color does not match that of White people, who benefit from generations of college access policies that have created for them a legal and social culture of college-going.

High school students of color are not consistently provided information and supports to pursue, enroll, and persist in higher education (Hill, 2008; Irizarry, 2012; McDonough, 2005). Students of color are often under-engaged in the college-going process by the same entities that more fully engage their White counterparts (Hill, 2008; McDonough, 2005). The college-going process consists of college aspirations, academic preparation, entrance exams and application, enrollment and financial considerations (St. John, 2002). As articulated by St. Johns (2002), rarely is the college-going process linear for a student. The Balanced Access Model suggests that the process can be influenced by financial considerations at any time; potentially causing a student to not participate or persist in higher education (St. John, 2002). There is a paucity of effectively implemented curriculum that creates a culture of college-going among groups with histories of legal and social educational denial and marginalization. Instructional programming that provides college-going information as well as supports to empower students of color to engage in the college-going process is needed.

The purpose of this thesis is to illuminate the history and inequalities of college access in the United States and present a model for creating college access for students and families of color that is both collaborative and empowering. Iowa State University Science Bound, and its Countdown to College Program, fosters college access for students of color. The Countdown to College program is a way to disrupt the dominant

culture norm of low expectations and support and create a new norm for Science Bound students, specifically, and among students of color, in general. The new, normal expectation and perception among Science Bound students and key stakeholders is: college is not only a palpable aspiration, but the next logical step after high school graduation.

### **Definitions**

Throughout this thesis, various terms are used to refer to groups . Definitions for these terms are provided below:

1. Minority /people of Color: groups of individuals whose ethnicity or racial group comprises less than 50% of the population of the United States. These include the following ethnicities or races: American Indian, Alaskan Native, Black (Not of Hispanic Origin), and Hispanic (including persons of Mexican, Puerto Rican, Cuban, and Central or South American Origin).
2. Under-represented ethnic minority: An ethnic group whose percentage of the Science, Technology, Engineering, and Mathematics professional population is less than its percentage of the general population. The National Science Foundation defines these ethnic groups to include: Black, Hispanic, Asian/Pacific Islander and American Indian.
3. Black and African-American: A person having origins in any of the Black racial groups of Africa. (US Census, 2010)
4. Latin@ and Hispanic: A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race. (US Census, 2010)
5. White and Caucasian: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa. (US Census, 2010)
6. Technical Disciplines/Fields/Degrees, Science-related fields, STEM, and ASTEM: Majors or fields focused on Agriculture, Science, Technology, Engineering, and Mathematics.

## **Science Bound Program**

Iowa State University Science Bound is an informal science, technology, engineering, and mathematics (STEM) educational development program to prepare and equip pre-college students of color in grades 8-12 to pursue degrees and careers in STEM fields. Begun as a pilot project to motivate and prepare students of color to pursue careers in technical disciplines, Science Bound started with six seventh grade students at Merrill Middle School in Des Moines during the 1988 -89 academic year. There were numerous goals that the program was designed to achieve, but the most important was to increase the involvement of underrepresented ethnic minority students in technical disciplines. In 1990, the program received a National Science Foundation grant that moved it to a full program, known as Science Bound.

Students are identified for Science Bound at the end of grade 7 and begin in the program in grade 8. Students must continue in the program for 5-years, through their senior year of high school. Each semester, students must earn a minimum grade point average of 3.0 or higher and participate in 75% of Science Bound activities, which include weekly after school meetings, four Saturday visits to the university, and summer activities. Students who meet these requirements from grade 8-12, earn a 4-year tuition scholarship to Iowa State University to major in a STEM field.

The focus of this thesis is on the Science Bound Countdown to College program. The Countdown to College program is the culminating activity for the

program's high school seniors and is designed to engage students and families in the college-going process.

The remainder of this thesis is organized into four chapters. In chapter 2, I provide a review of the literature on the history of college access. In chapter 3, I present the Science Bound Countdown to College program. In chapter 4, the development of a college-going community through the Countdown to College program is presented. Chapter 5 is the conclusion.

## **CHAPTER 2 REVIEW OF THE LITERATURE: HISTORICAL EXAMINATION OF COLLEGE ACCESS**

There are more than 4,800 post-secondary institutions of higher education in the United States. Furthermore, nearly 3,000 grant bachelor's degrees (Kena, Musu-Gillette, Robinson, Wang Rathbun, Zhang, & Wilkinson-Flixxer, 2015) To understand the dynamics of 21<sup>st</sup> century college access, it is necessary to examine its historical development and the policies and practices that shaped educational equity in the United States. This literature review begins with a prelude to educational equity and access prior to the middle of the 20<sup>th</sup> century. Then a historical overview of the expansion of college access from World War II until its decline in the 1980s is presented. Then I examine two widely-accepted college access models that illuminate the steps and factors that lead to college enrollment. Finally, I examine the literature on college access for Latin@ and African American students as well as research on guidance counseling and its impact on college access. The section concludes with a summary.

### **Prelude to 20<sup>th</sup> Century Educational Equality and College Access**

In the United States of America, initial public and social policies regarding education were written and enacted to deny education to enslaved people, most of whom were of African descent (Anderson, 1988; Kluger, 1976; Litwack, 2010). After the abolishment of slavery, legal and social policies were enacted to continue to deny and limit access that people of color had to formal K-12 education as well as higher education (Bell, 2004; Chambers, 2009; Darling-Hammond & Friedlaender, 2008; Ladson-Billings, 2006; *McLaurin v. Oklahoma State Regents for Higher education et al.*, 1950; *Plessy v.*

*Ferguson*, 1896; *Sweatt V. Painter et al.*, 1950; Yosso, Parker, Solórzano, & Lynn, 2004).

After approximately 100 years of legal educational discrimination, marginalization, and denial of full access to education, some of the legal policies have changed (Brown et al v. Board of Education of Topeka, Shawnee County, Kansas, et al.; Civil Rights Act of 1964; Civil Rights Act of 1968; Higher Education Act of 1965). Yet many written and unwritten social and institutional policies are well in place, as evidenced through higher high school dropout rates for students of color than White students (Kena, Aud, Johnson, Wang, Zhang, Rathbun, Wilkinson-Flicker, & Kristapovich, 2014; Ross et al., 2012), disproportionately high disciplinary reprimands given to students of color in comparison to their White counterparts (Caton, 2012; Eitle & Eitle, 2004; Gregory, Skiba, & Noguera, 2010; Skiba, Michael, Nardo, & Peterson, 2002; Gregory, 1997), as well as under-engagement and enrollment of students of color at four-year institutions (Ross et al., 2012; Strayhorn, 2011; Thomas & Perna, 2004; Wilds, 2000).

### **Historical Development of College Access**

College Access is defined by many scholars as the participation and persistence in higher education (Bergin, Cooks, & Bergin, 2007; Briggs, & Rhee, 1997; Hurtado, Inkelas, Mumper, 2003; Louie, 2007; Ross et al., 2012). To more fully understand the development of college access, who has access to college and who chooses to go to college, an examination of the historical development of college access in the United States is warranted. This section is divided into five sections. I examine the historical development of college access prior to the Civil Rights Acts of 1950s and 1960s, legal

challenges to racial segregation in education, Civil Rights legislation, and educational access prior to and resulting from the report *A Nation At Risk*.

### **College access prior to Civil Rights Acts of 1950s and 1960s**

Before the United States entered World War II in 1941, less than 2% of the 132 million people in the United States participated in higher education with approximately 1.5 million students (Kim & Rury, 2007). Before World War II college going was primarily for students who came from affluent families (Palmer, Hayek, Hossler, Jacob, Cummings, & Kinzie, 2004). During this time period college going and college choice was geared towards preparing students for their adult lives (Palmer et al., 2004).

After World War II, public policies were instituted to expand college access and encourage more Americans to enroll in and persist through college (Kim & Rury, 2007). The passage of the 1944 Servicemen's Readjustment Act, commonly known as the GI Bill, aimed to increase enrollment in colleges by providing returning veterans tuition funds (Herbold, 1994). Although stated as an effort to increase college enrollment and completion for Americans, the GI Bill of 1944 did not advocate or establish equitable college access policies and legislation for American Black soldiers (Turner & Bound, 2003). In 1947, the Truman Commission report, *Higher Education for American Democracy*, looked to expand education access to all students, however the emphasis was on community college access (Gilbert & Heller 2013; Palmer et al., 2004).

### **Legal challenges to racial segregation in public and higher education**

Throughout the 1940s and 1950s, many legal battles ensued to dismantle Jim Crow laws and public policies that denied African Americans (and other people of color) basic rights to public transportation, accommodations, education, employment, land



ownership, and nearly every area of American life to which White Americans had rights, access, and privilege (*Brown V. Board of Education*, 1954; *Henderson V. United States*, 1950; *McLaurin v. Oklahoma State Regents for Higher education et al* 1950.; *Sweatt V. Painter et al.*, 1950; Tsesis, 2008). The GI Bill, and particularly its implications for education, had a significant impact on the development of the White middle class by providing financial and other assistance for purchasing homes, establishing businesses, and educational support (Herbold, 1994). The education support provided through the GI Bill took the form of financial support for tuition, subsistence, books and supplies, and as well as counseling for veterans (Herbold, 1994).

It was an entire generation later, nearly 20 years, in the mid 1960s, when college access public policies were expanded to include people of color (Kim & Rury, 2007). These policies were the results of hard-fought, extensive civil rights protests, sit-ins, and court battles (Klarman, 1994; Morris, 1986; Robnett, 1997).

Legal policies regarding educational access for people of color first started to significantly shift in the 1950s with the 1954 U.S. Supreme Court ruling on the *Oliver L. Brown et al. V. Board of Education of Topeka, Shawnee County, Kansas, et al.* case that declared racial segregation unconstitutional based on the equal protection clause of the 14<sup>th</sup> amendment. Furthermore, the Supreme Court ruled that public schools are to be based on a racially nondiscriminatory basis with all deliberate speed. Although the courts ruled racial segregation was unconstitutional, many states and public higher education institutions were slow to integrate and/or devised ways of denying access to people of color based on illegitimate reasons.

### **The Ruby Bridges case**

The educational experience of Ruby Bridges, an African American 6-year-old girl in New Orleans in 1960, illustrates the fierce resistance of the Louisiana state government to comply with federal integration laws regarding the K-12 public schools. Furthermore, the public's reaction to little Ruby Bridges illuminates the entrenched racist social policies that empowered mobs of White people to terrorize a child. In response to legal enforcement of school integration law, many White citizens in New Orleans vehemently protested the public school enrollment of Ruby Bridges; and the parents of White children removed their students from the school. At the time, American social policies defined people of color as inferior to White people; and thus, it was considered reasonable and rational that children of color were not educated in the same schools as White children. The social policies authorized and galvanized mobs of White people to jeer and berate an African American child as she walked to school.

In 1960, six years after the Supreme Court school integration ruling, New Orleans Public Schools still refused to integrate the public schools. To further slow compliance, the New Orleans School Board required Black children to pass an examination to determine if they were at an intellectual level comparable to the White children. Six-year old Ruby Bridges passed the test indicating she was “intellectually capable” enough to attend school with White children (Bridges, 1999). She was assigned to attend William Frantz Elementary, an all White school (Bridges, 1999). Throughout the summer before she was to attend William Frantz Elementary, segregationists in the Louisiana State Legislature attempted to block Ruby from going to the school by passing 28 laws against

integration (Bridges, 1999). Those attempts, however, were thwarted by the Federal Court, which struck down each law as unconstitutional (Bridges, 1999).

On the first day that Ruby Bridges was to attend William Frantz Elementary, the six-year old had to be escorted into the school by U.S. Marshals as mobs of White people yelled at her as she walked into the school (Bridges, 1999). Ruby spent her entire first day of school at William Frantz Elementary in the principal's office with her mother. On the second day, Ruby went to a classroom where she was the only student; she spent the entire day in a classroom by herself with her teacher, Mrs. Henry (Bridges, 1999).

Each day, the U.S. Marshals escorted Ruby to school, and she walked through hostile crowds of White people yelling and shouting at her. People in the jeering crowds outside of the school also threatened to poison little Ruby. As a result, she was not required to eat lunch or snacks provided by the school; instead she was allowed to eat food she brought from home (Bridges, 1999). In addition to the pressure little Ruby endured, her entire family and community felt the ramifications of integrating the New Orleans Public Schools; Ruby's father lost his job, and their local grocery store refused to sell to the family (Bridges, 1999).

As the school year went on, protestors started to dwindle and more White students began attending the school (Bridges, 1999). At the end of the school year, the U.S. Marshals no longer had to escort Ruby to school to ensure her safety; although, she had to ride in a taxi each day because it was not safe for her to walk to school like the White children (Bridges, 1999). By the time Ruby went back to school for second grade, Ruby was no longer in a classroom by herself, and she was not the only African American student enrolled in the school (Bridges, 1999).

### **The Clyde Kennard case**

Similar to the denial of educational access for African Americans at the K-12 level, public colleges and universities, in collaboration with state government officials, vigorously worked to deny educational access for people of color who sought a college education. Such was the case of African American veteran Clyde Kennard who, after serving 7 years in the military including tours of duty in Germany during WWII and Korea, enrolled at the University of Chicago to study Political Science (Minchin & Salmond, 2010).

In 1955 his stepfather passed away and Kennard moved to Mississippi to help his mother with the family farm (Minchin & Salmond, 2010). In 1955 he applied to Mississippi Southern College (now University of Southern Mississippi) but was denied admissions due to his inability to obtain five alumni references from his home county (Forrest County, Mississippi). The university president, Dr. William McCain, told the Mississippi Sovereignty Commission that Kennard had above average grades and other than the lack of five alumni references he met all the admission criteria (Minchin & Salmond, 2010).

In 1958, Kennard wrote a letter to the *Hattiesburg American*, the major newspaper serving the Mississippi Southern College community, stating his intention to enroll at Mississippi Southern College in 1959 (Sansing, 1990). The Sovereignty Commission of Mississippi, an entity established by the state legislature to ensure that federal laws did not encroach upon the Jim Crow laws of the south, started to investigate (Sansing, 1990). When the Sovereignty Commission could not find any wrong doing in Kennard's past, the Governor of Mississippi (James Coleman) and the President of

Mississippi Southern College met with Kennard (Sansing, 1990). They advised Kennard that his enrollment in the college would agitate the state and worsen race relations (Sansing, 1990).

Kennard continued his pursuit for admission to Mississippi Southern College even through his family's chicken farm being foreclosed on and the chickens confiscated (Sansing, 1990). As Kennard proceeded with his application to the college, the same agency that foreclosed on Kennard's farm was robbed. Johnny Roberts was convicted of the robbery. But Roberts' sentence was suspended after he identified Kennard as someone to whom he sold the stolen feed (Sansing, 1990). Roberts stated that Kennard knew the feed was stolen, but purchased the feed anyway; this was a felony in Mississippi (Sansing, 1990). Kennard was sentenced to seven years in Parchman State Penitentiary (one of the worst facilities in the penal system) for the offense. During that time Kennard developed intestinal cancer. Kennard died in prison in 1963 (Sansing, 1990).

As was the case with Clyde Kennard, higher education institutions and the state government actively worked together to deny African Americans access to higher education. In conscious defiance of federal laws, the state of Mississippi went so far as to have the Governor and president of the college meet with Kennard to pressure and persuade him not to apply for admissions to the public college. Kennard's case is not unique to Mississippi or institutions of higher education; many state and local government entities as well as many colleges actively pursued and implemented processes to deny African Americans access to education.

**Civil rights legislation**

In 1946, President Harry S. Truman appointed a Civil Rights Commission, as he viewed that it was the federal government's job to protect the constitution (Tsesis, 2008). Truman's Civil Rights Commission produced a report that showcased how segregation was creating a sense of inferiority among African Americans; the Commission recommended that the federal government should be a leader in championing civil rights (Tsesis, 2008). After the report, President Truman gave a speech to Congress in which he called on congress to do more in the way of civil rights legislation. As a result, additional legal policies regarding civil rights were developed including the Eisenhower Administration's enactment of the 1957 Civil Rights Act. This act developed the Civil Rights Division of the Justice Department to "investigate, conduct hearings, and subpoena witnesses" (Tsesis, 2008, p.243).

In 1960 another Civil Rights Act was passed. One aim of the 1960 Civil Rights Act was to ensure that the votes of people of color were counted and not destroyed; thus, the 1960 Civil Rights Act made it illegal for states to destroy any voting records (Tsesis, 2008). Although many formal legal policies to bring about legal and equitable treatment of African Americans were in place, the enforcement of these laws was minimal at best. Records indicate that from 1957-1963 the Civil Rights Division of the Justice Department formally pursued only 42 suits (Tsesis, 2008).

Civil Rights legislation, providing Black Americans with the same legal rights that Whites had enjoyed for generations, started to shift in increments and so did the political rhetoric surrounding civil rights. When President Kennedy took office in 1961, his stance regarding civil rights was similar to past presidents (Tsesis, 2008). The stance

of Kennedy and many of his predecessors regarding civil rights was one of neutrality; at the most, former presidents advocated small changes- incrementalism, and not radical change in civil rights laws (Tsesis, 2008).

It was not until the June 11, 1963 speech by President Kennedy that the national rhetoric and social policies on civil rights began to change (Tsesis, 2008). In this speech, which was a response to having to send in the Alabama National Guard to escort two African American students on to the University of Alabama campus, Kennedy focused on equality for all. He stated, “One hundred years of delay have passed since President Lincoln freed the slaves, yet their heirs, their grandsons, are not fully free. They are not yet freed from the bonds of injustice. They are not yet freed from social and economic oppression. And this nation, for all its hopes and all its boasts, will not be fully free until all its citizens are free.” (Kennedy, 1963).

After the assassination of President Kennedy, President Johnson ushered in a new era of civil rights laws, political rhetoric, and social policies (Tsesis, 2008). The passage of the 1964 Civil Rights Act by President Johnson (10 years after school segregation was ruled illegal) aided in the desegregation of higher education even though *Brown V. Board of Education* mandated desegregation in 1954 (Harper, Patton, & Wooden, 2009). Title VI of the 1964 Civil Rights Act ensured that any program or activity receiving federal funding could not discriminate based on race, color, or national origin (Harper, Patton, & Wooden, 2009).

In 1965, President Johnson gave a speech at Howard University illustrating his stance on civil rights stating: “You do not take a person who, for years, has been hobbled by chains and liberate him, bring him up to the starting line of a race and then say, “you

are free to compete with all the others,” and still justly believe that you have been completely fair” (Johnson, 1965). President Johnson also used an executive order to mandate that federal contractors increase the number of people of color that they employed (Harper, Patton, & Wooden, 2009). The same year, the 1965 Higher Education Act was passed which provided student aid through grants and federally insured loans to low income students and families (Gilbert & Heller, 2013).

Civil rights laws in the 1960s and 1970s, including Affirmative Action policies and desegregation laws, provided legal access to college for people of color. The enactment of these new laws resulted in the greatest level of college access for people of color (primarily African Americans) ever, particularly at predominantly White institutions (PWIs). This unprecedented access to higher education by people of color occurred from the mid-1960s until the 1980s (Harper Patton, & Wooden, 2009; Orfield, 1990).

### **Prelude to a Nation At Risk**

The unprecedented access that people of color had to higher education started to erode in the 1970s (Harper, Paton, & Wooden, 2009; Kim & Rury, 2007; Orfield, 1990). The focus on Civil Rights started to decline, and the focus on education moved from access to excellence. The shift in focus on education from access, in which community colleges and public 4-year institutions were admitting nearly all high school graduates who desired to earn a post-secondary degree, to a focus on excellence brought higher admission standards to four-year institutions. Additionally, funding for higher education shifted from need-based scholarships, grants, and loans to merit-based scholarships (Gilbert & Heller, 2013; Orfield, 1990). Need-based support provided funding to those



who had lower incomes, and merit-based support provided funding to those with the highest test scores and grade point averages (Orfield, 1990). These shifts had an impact on access to education for all students, and particularly for students of color, and as a result the number of students who pursued a college education started to decline (Orfield, 1990).

In the early 1970s the Affirmative Action policies came under attack with court cases focusing on White students being denied admissions to universities due to admission policies that incorporated racial diversity as a part of admissions decisions (Orfield, 1990). This, along with other policy shifts, initiated the decrease in college access for students of color (Orfield, 1990)

The 1978 Higher Education Act signaled the end of the “war on poverty” (a central tenant and rationale for the 1965 Higher Education Act) and gave way to a focus on the middle class (Gilbert & Heller, 2013). The 1978 Higher Education Act included middle-income student assistance, which raised income limits on grants and removed income limits on federal loans (Gilbert & Heller, 2013). Additionally, the 1978 Higher Education Act redefined the purpose of college. In this landscape, universities began to see themselves as places for global positioning and not merely for college access (Orfield, 1990). Community colleges were redefined as the higher education setting meant for access to higher education (Orfield, 1990). That is, four-year colleges and universities were defined as the educational setting for those with high intellectual abilities and community colleges were defined as the educational setting for all (regardless of intellectual ability) to access post-secondary education.

### **A Nation at Risk report and the aftermath**

In 1981 Terrel Howard Bell, the Secretary of the U.S. Department of Education appointed by President Ronald Reagan, called for a review of the quality of education in the United States. Bell wanted to review the status of higher education by examining the quality of teaching at universities, comparing American schools and colleges to other nations, studying the academic qualifications for admission and student achievement, identifying educational programs that facilitate success at college, studying social and educational changes that affected student achievement, and identifying obstacles that must be overcome to attain excellence in education (Gardner, 1983).

The culminating report emerged in 1983, entitled *A Nation at Risk: Imperative For Educational Reform*, reported that the United States was at risk of losing its competitive edge due to low test scores, increase in remedial courses taken at universities, and decline in science achievement scores. The report used examples of Japanese companies making automobiles more efficiently, and Korean corporations building the most efficient steel mills as examples of the United States losing its competitive edge.

As a result of the report *A Nation at Risk*, legislative and social policies were enacted that further shifted the focus of colleges away from access to higher education to concentrating on excellence in education. Instead of an emphasis on increasing or expanding who had access to higher education, college admissions centered on allowing only those with high qualifications to enroll. More stringent admission requirements were put in place as four-year institutions were now seen as vehicles for economic global positioning. This was due, in part, to the economic impact that college degree attainment

was having on incomes. During this time the gaps in wages between those who attained a college degree and those who attained a high school degree grew significantly (Orfield, 1990).

According to the Census Bureau report (1984) a White individual who had completed only high school earned an average monthly income of \$1,045. In contrast, a White individual with a bachelor's degree earned an average monthly income of \$1,841. Despite the legal and social policies to bring about equality for people of color, the 1987 Census Bureau report illustrated the persistence of inequality in income for Black Americans. The report indicated that a Black individual who had completed only high school earned an average monthly income of \$765 (nearly 25% less than Whites with the same education). In contrast, a Black individual with a bachelor's degree earned an average monthly income of \$1,388 (nearly 33% less than their White counterpart). Becker (1993) illustrated the income gap and what he called the return on investment or the income level you could receive based on your education level. Becker (1993) viewed education as a form of human capital and in this he shows the income gap as a lower return on investment for African Americans. This expanse of the income gap between individuals with only a high school diploma and those with a bachelor's degree caused colleges and universities to require more classes, higher test scores and offer fewer remedial courses (Orfield, 1990).

Legal enforcement of Civil Rights laws declined substantially during the 1980s (Orfield, 1990). With the removal of any significant threat of Civil Rights enforcement, college access for students of color waned. Additionally, there was a shift in the focus of college financial assistance from need-based to merit-based scholarships (Orfield, 1990).

Need-based scholarships allowed more low-income students to attend college, as many of these students could not afford to go to college without financial assistance. Merit-based scholarships, which followed the excellence movement, awarded financial assistance to students who were the most academically qualified without regard for financial need considerations. This, along with the rise in tuition that outpaced grants and scholarships, made college less accessible to many low-income students and families (Orfield, 1990).

Since the 1980s, the racial gap in college going and degree attainment has continued to grow (Ross et al., 2012). African American and Latin@ students are not going to college or completing college at the same rate as their White counterparts. According to Ross et al. (2012), African Americans and Latin@ students, particularly males, enroll in college at a significantly lower rate than their White counterparts. These students not only enroll at significantly lower rates, but they also complete degrees at a significantly lower rate (Ross et al., 2012).

The significant decline in enforcement of Civil Rights laws, the shift from need-based to merit-based financial assistance, and the focus on excellence in education caused access to higher education to decline. The once increasing access to college reverted back to the gap where students of color were not only enrolling in college at significantly lower rates than White students, but are also completing degrees at lower rates. (Ross et al., 2012)

### **College Access Models**

There are many factors that determine if a student has access to college; that is, a student's ability to participate and persist in higher education following high school graduation is determined by multiple academic, social, and financial factors. Several

models exist that explain how a student gains access to college (Hossler & Gallagher, 1987; McDonough, 1997; Terenzini, Cabrera, & Bernal, 2001). For the purposes of this work, I present two well-known models that examine students' college access and the factors that influence students' ability to participate in college.

### **Pipeline to College Model**

Based on of the National Science Foundation Pipeline To a Math or Science Degree (National Science Foundation, 1995), the National Center for Education Statistics (NCES) developed the Pipeline To College model (Horn, 1997). This model was developed in order to assess the differences in pathways to college for at-risk and non at-risks students (Horn, 1997). According to the research, at-risk students are youth who are students or groups of students who are considered to have a higher probability of failing academically or dropping out of school. These include students who are from low socio-economic status (SES) background, single-parent family, have older siblings who dropped out of school, changed schools two or more times, averaged grades of C or lower have repeated a grade, or have older siblings who dropped out of school (Chen & Kaufmann, 1997). Horn (1997) compared at-risk students to non at-risk students on their college access. The findings of the study resulted in a five-step college access model entitled the Pipeline To College. The steps are: aspirations, academic preparation, entrance exams, college application, and enrollment.

The five steps of the Pipeline to College Model are what contribute to a student's ability to participate in a four-year institution (Horn, 1997). According to the model, students must have the aspirations to go to college, be prepared academically by meeting the entrance requirements, take the college entrance exams, complete the college

application process, and then finally enroll in college. Participating in these steps is necessary for college going (Horn, 1997).

Horn (1997) showed that at-risk students differed from non-at-risk students in all the steps of the Pipeline to College Model; most significantly in college-going aspirations and academic preparation. According to the Horn (1997) students' socio-economic status was a significant factor in students' aspirations. Less than half of the low SES students, who would be considered at-risk due to their income level, wanted to attain a bachelor's degree; while 64% of middle-income students and 89% of high-income students, who would be considered to be not at-risk due to their income level, aspired to attain a bachelor's degree. Furthermore, the research examined students' academic preparation using class rank, entrance exams, grades, and data from National Education Longitudinal Study (NELS) math and reading scores (Berkner & Chavez, 1997). Results of the study showed that at-risk students who had aspirations to earn a bachelor's degree were less academically prepared than their not at-risk counterparts. Only 44% of at-risk students were academically prepared for college, while 75% of not at-risk students were academically prepared for college (Horn, 1997).

The Pipeline to College Model (Horn, 1997) outlines the steps of the college-going process and factors that might lead to students not having access to college. However, this model does not take into account the financial aspect of going to college; and therefore, leaves out a significant and important factor that impacts college access and a student's motivation to engage in the college-going process as well as their ability to enroll in college.

**Balanced Access Model**

The Balanced Access Model takes into account the five steps of college access that comprise the NCES Pipeline to College Model (Horn, 1997), but it includes an additional component: financial considerations. The Balanced Access Model divides college access into two components: financial access and academic access (St. John, 2002).

St. John (2002) argued that financial aid plays a key role, along with the other factors, that leads to college access. The Balanced Access Model does not look at college access as necessarily linear in nature. Rather the Balanced Access Model recognizes that college access can be influenced by a variety of factors throughout the process, and in particular, how financial considerations can influence the student throughout the college-going process (St. John, 2002).

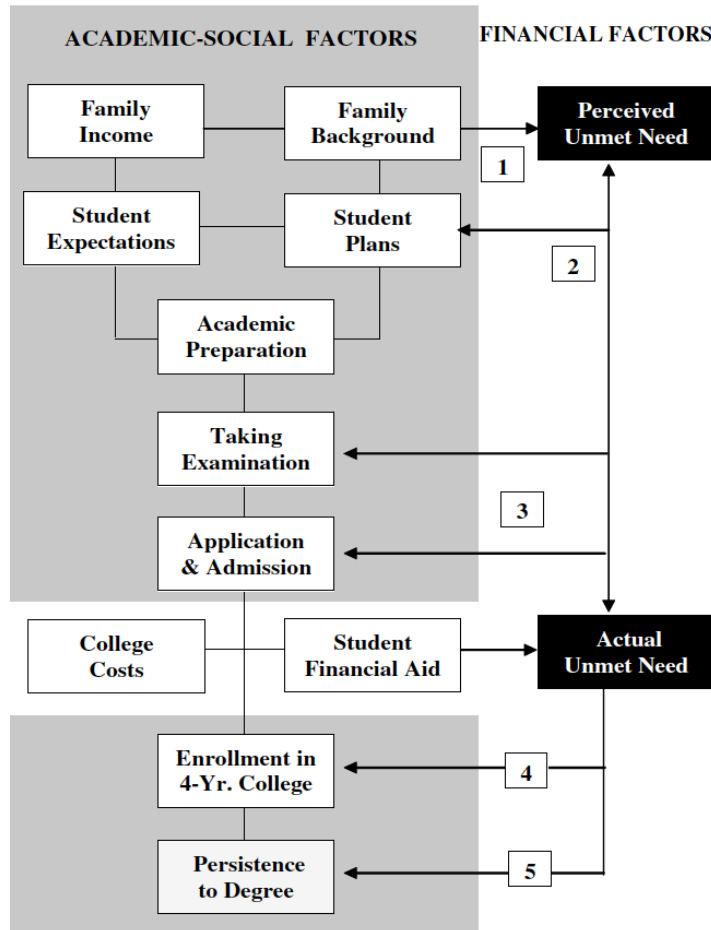


Figure 1: Balanced Access Model (St. John, 2002 p.10 )

The Balanced Access Model (Figure 1) illustrates how financial factors, both actual and perceived, can impact the student throughout their engagement in the college-going process. That is, students' expectations and plans for going to college are influenced by family income and background. For example, the college aspirations of students (and families) who do not believe that they can afford to go to college may be impacted by their financial beliefs. This then links to students' academic preparation for college, which is influenced by the student's plans and expectations for going to college. If the students do not believe they are going to go to college then they are less likely to prepare themselves academically for college.



Students' academic preparation directly impacts their performance on the entrance exams they must take in order to enroll in college. If the student has already taken her/himself off the college track s/he may not take the exam. Or if a student has prepared for the college entrance exam but sees the price of taking the exam as too expensive, s/he may choose not to take the exam, even though they are prepared to do so. Taking the college entrance exam is a prerequisite of the application process, as students must take the entrance exam as a part of admission. Again, there are costs associated with the application process and accepting admissions to the university; if the student or family perceives that they cannot afford these costs, the student may not continue in the college-going process.

Once a student has applied and been accepted to college, they receive the financial aid award letter. This is the point at which the student and family obtain a tangible personal statement of the actual financial cost of college and can determine if and how they can afford college. If there is an unmet financial need, the student although s/he aspires to earn a degree, is academically prepared, has completed the admissions process, and is admitted to college, financial factors may cause the student not to enroll in college. Finally, if the student does enroll, the continuation of an unmet financial need may cause more stress on the student and family, which can lead to the student dropping out (St. John, Musoba, Simmons, Chung, Schmit, & Peng, 2004).

The Balanced Access Model illustrates that financial factors play an important role in a student's decision to apply to college, enroll, and persist to degree completion. Students who do not believe that they can afford college are less likely to develop and

cultivate college aspirations. If students apply to college and later find out that they cannot afford college, they are likely not to enroll at the university.

### **Gaps in College Access for Latin@ and African American High School Students**

The demographics of the United States have been changing since the 1970s with an increase in the Latin@ population and a decrease in the White population (U.S. Census Bureau, 2010). In 1970 the Latin@ population was 4.71 percent, the White population was 83.17 percent, and the Black population was 11.11 percent (U.S. Census Bureau, 1970). In 2010 the Latin@ population was 16.3 percent, the White population was 63.7 percent, the Black population was 12.6 percent, and Asian population was 4.8%. (U.S. Census Bureau, 2010). This demographic shift has also resulted in an increase in the proportion of students of color in K-12 education as well as those who make up the college-going population. The population increase of families of color and the lack of increase of students' of color college participation and persistence led the U.S. Congress to commission studies and reports on the issue. In this section, I examine the gap in college access, the approaches used by organizations to facilitate college access, and guidance counselors' impact on college access for students of color.

In 2012 Congress directed the U.S. Department of Education to produce a report documenting the gaps in access and completion of higher education by Latin@ and African American males (Ross et al., 2012). This report “presents 46 indicators of trends in the education of males and females across specific racial/ethnic groups” and disaggregates the data by gender (Ross et al., 2012). The report was intended to showcase where groups are similar and different based on educational achievements. Ross et al. (2012) found that although African Americans and Latin@s enroll in college at a lower

rate than their White counterparts, their college aspirations and college application rates are similar to those of Whites (Ross et al., 2012). This is significant in that despite the fact that students of color are applying to college at similar rates to Whites, they are not enrolling in college at the same similar rates. A more in depth look at the causes of not completing the college enrollment process is needed to decrease this higher education participation gap.

Research on college access indicates that African American and Latin@ students are not getting access to the information they need to fully engage in the college-going process (Cunningham et al., 2007; Irizarry, 2012; McDonough, 2005; Ross et al., 2012). And because of this, African American and Latin@ students are not enrolling in higher education at the same rates as White students (Cunningham, Erisman, & Looney, 2007; Roderick, Nagoka, Coca, & Moeller, 2008).

### **College linking approaches**

College linking refers to the amounts and types of resources available to engage and empower students in the college-going process. Hill (2008) described three different approaches to college linking. The three approaches were traditional, clearinghouse, and brokering. The traditional approach of college linking is one where the high school assists the majority of students in linking to the workforce and assists a very small segment of students in linking to college (Hill, 2008). The clearinghouse approach to college linking is one where the school has few college resources and links for the students. Schools that use the clearinghouse approach to college linking place the responsibility of linking to college directly and primarily on the students (Hill, 2008).

The brokering approach to college linking is one where the school has a variety of college resources and intentionally engages students in the college linking process to facilitate access (Hill, 2008). According to Hill (2008), high schools that provide a brokering approach to college-going information have greater student participation in higher education than high schools that do not. The brokering approach is one where schools not only have the information available but also actively engage students in the college-going process. According to Ross et al., (2012), Latin@ and African American students were more likely to attend high schools with a higher percentage of counselors who saw their job as helping students to improve high school achievement rather than assisting students in planning and preparing for higher education, (i.e. traditional linking approach).

### **Guidance counselors' impact on college-going**

McDonough (2005) conducted a review of the research on the college going steps and the role, work, and characteristics of effective school counseling. Although the literature indicated that the main priorities of high school counselors are scheduling, testing, and discipline, McDonough (2005) found that school counselors had different definitions of priorities based on the different constituencies they served. Some counselors described their administrative and academic responsibilities as top priorities, and others described therapeutic responsibilities as priority. That is, their stated priorities were on school attendance, testing, academic course scheduling and the student's mental well being; college going was not a top priority.

McDonough's (2005) research illustrated that counselors can have an impact on students' aspirations, achievements, and college enrollments. That is, when provided the

time and if they have the knowledge, guidance counselors can help students learn about and become more knowledgeable about college-going. This will then impact the students' aspirations and college enrollment. In middle and upper class neighborhoods the next priority (after attendance, testing, and scheduling) is college counseling. But in low income neighborhoods the next priorities are dropout, drug use, pregnancy, and suicide prevention.

Similar to McDonough (2005), Irizarry (2012) conducted a three-year ethnographic study that followed two groups of Latin@ students in their senior year of high school to examine their pathways to college. Both McDonough (2005) and Irizarry (2012) found that African American and Latin@ students, particularly in urban settings and low SES settings, had less access to counselors who had time for one-on-one consultations than their suburban, White counterparts. Furthermore, students of color also were relegated to academic tracks not conducive to college preparation (Irizarry 2012).

Students who do not have access to the information needed to engage in the college-going process and enroll in college (McDonough 2005), and students who do not have someone with whom they feel comfortable asking questions about the college-going process, find it difficult, at best, to access college and navigate the higher education system (Cunningham, Erisman, & Looney, 2007). Access to information is critical to engaging in the college-going process. Not having access to information may cause students not to engage in the college-going process, particularly if they are first generation students as the process may overwhelm them.

Lack of information about or support to engage in the college-going process leads students to not participate in higher education (Cunningham et al., 2007; Irizarry, 2012;

McDonough, 2005; Ross et al., 2012). Students who may be first generation college students or are from low socio-economic status backgrounds may feel they cannot afford the cost of college. Lack of information regarding financial aid, specifically grants, loans, or scholarships, that can ease the financial burden or how to navigate the financial aid system may further cause low income or first generation students to not participate or persist in college.

Students of color may be at risk of not enrolling in college due to low teacher and counselor expectations, being placed on academic tracks that do not prepare them for college, and not having counselor support to engage in the college-going process (Allen, 2013; Delgado & Stefancic, 2012; Irizarry, 2012; McDonough, 2005; Minikel-Lacocque 2013; Solórzano, Ceja, & Yosso, 2000). Students of color may not receive the information needed to engage in the college-going process, or may not be made aware of and actively encouraged to tap into the college linking resources at the school (Cunningham et. al, 2007; Irizarry, 2012; McDonough, 2005). The research literature on college going shows that students with access to information and a community that actively engages them in the college-going process are more likely to participate and persist in college (Hill, 2008).

### **Summary**

Racism is endemic and can be seen throughout the history of college access in the United States (Allen, 2013; Blanchett, 2006; Caton, 2012; Darling-Hammond & Friedlaender, 2008; Delgado & Stefancic, 2012; Irizarry, 2012; Jussim, Eccles, & Madon, 1996; Ladson-Billings, 1997; Landsman, 2004; Minikel-Lacocque 2013; Solórzano, 1997; Solórzano & Ornelas 2002; Solórzano, Ceja, & Yosso, 2000). Prior to WWII

primarily students from affluent families enrolled in college (Palmer, Hayek, Hossler, Jacob, Cummings, & Kinzie, 2004). After WWII public policies were enacted to encourage college participation, however the policies favored White students while simultaneously denying college access to students of color (Herbold, 1994; Kim & Rury, 2007).

Legal challenges to segregation sought to dismantle the unequal treatment of students of color, and in 1954 the *Brown V. Board of Education* decision made racial segregation in education illegal (Klarman, 1994; Morris, 1986; Robnett, 1997). In spite of the Supreme Court ruling, local and state governments continued to deny educational access to people of color (Bridges, 1999; Minchin & Salmond, 2010; Sansing, 1990;).

It was not until several Civil Rights Acts, legal battles, public protests, demonstrations, and sit-ins were enacted that incremental changes started to occur in legal and social policies (Klarman, 1994; Morris, 1986; Robnett, 1997). During the 1960s presidential rhetoric started to shift as both President Kennedy and President Johnson spoke out on Civil Rights (Johnson, 1965; Kennedy, 1963; Tsesis, 2008). Ten years after the *Brown v. Board of Education* ruling, the Civil Rights Act of 1964 desegregated higher education (Harper, Patton, & Wooden, 2009). The 1960s and 70s saw the greatest amount of college access for people of color (Kim & Rury, 2007; Orfield, 1990; Harper, Paton, & Wooden, 2009).

A *Nation at Risk* report ushered in a focus on excellence and dismissed the focus on access. To complement this new focus, need-based financial aid was replaced by merit-based financial aid as four-year colleges concentrated on global positioning (Gardner, 1983).

Scholars have studied college access in an effort to develop models to explain the process and factors that determine college-going (Horn, 1997; Hossler & Gallagher, 1987; McDonough, 1997; St. John, 2002; Terenzini, Cabrera, & Bernal, 2001). The Balanced Access Model includes financial considerations as a key variable throughout the college-going process in order to understand the dynamics that impact students' access to higher education (St. John, 2002). The population growth of Latin@s and African Americans in the U.S. has been significant, yet this growth is not mirrored in college enrollment and completion (Ross et al., 2012). Although the aspirations and college applications of students of color are similar to that of White students, their enrollment is not (Ross et al., 2012). This is due, in part, to the levels of teacher and counselor expectations, engagement, and empowerment of students of color (Blanchett, 2006; Caton, 2012; Darling-Hammond & Friedlaender, 2008; Irizarry, 2012; Jussim, Eccles, & Madon, 1996; Ladson-Billings, 1997; Landsman, 2004; Solórzano & Ornelas 2002; Solórzano, 1997).

In the next chapter, I present the Countdown to College program as a model for creating college access for high school students of color. The Countdown to College program seeks to incorporate key components of college-going as articulated in the literature to address the college participation gap of students of color. The necessity of a Countdown to College program (and Science Bound) is due to the presence and pervasiveness of racism in all levels of education; as such, racism in education can be seen through the public policies, both legal and social, that have shaped college access. The purpose of this section is to present the Countdown to College program as a model to provide college access for students of color.



## **CHAPTER 3 COUNTDOWN TO COLLEGE: A YEAR LONG PROGRAM ENGAGING STUDENTS AND FAMILIES OF COLOR IN THE COLLEGE- GOING PROCESS**

### **Introduction**

Countdown to College is an academic year-long program to create college access for students of color who participate in Science Bound<sup>1</sup>. It is designed as a college-going community among Science Bound participants, many of whom will be the first in their family to enroll in higher education. This college-going community is comprised of the high school seniors and their parents/family members, Science Bound staff, and university enrollment staff who have knowledge, expertise, and well-established networks in the areas of admissions, financial aid, housing, degree majors and areas of study, academic resources on campus, and student life. The Countdown to College program provides an ongoing series of large group, small group, and individual interactions among members of this college-going community throughout the students' senior year of high school to assist students and families in actualizing their college-going aspirations.

The purpose of this paper is to present Countdown to College as a model for engaging students of color in the college-going process. The Countdown to College model incorporates a brokering approach (Hill, 2008) that addresses the steps of the Balanced Access Model of college access (St. Johns, 2002). Additionally, this model fosters the creation of community among students, family members, and university staff

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<sup>1</sup> Science Bound is Iowa State University's premier pre-college program to increase ethnically diverse Iowa Students who pursue ASTEM degrees. The program is in three school districts Des Moines, Denison, and Marshalltown.

to facilitate students' and families' engagement in the college-going process and their acclimation to higher education.

This chapter is an overview of the Countdown to College program. In the overview of the Countdown to College program I describe the structure, goals, and components that assist students and families to engage in the college-going process.

### **Overview of Countdown to College Program**

The Countdown to College program looks to facilitate and encourage students to engage in the college-going process. The program is an academic year-long program that will take the students through the process of enrolling in higher education. This section looks to focus on the three overarching goals of the program and the components, which are made up of the Workshop Series and the College-Going Actions.

### **Countdown to College goals and components**

The Countdown to College program has three overarching goals for high school seniors and their parents: 1) increase and expand students' and families' comfort in and knowledge of the college-going process; 2) empower students and families to actively and deliberately engage in and complete the college-going process; and 3) facilitate students' success in the first three semesters of college.

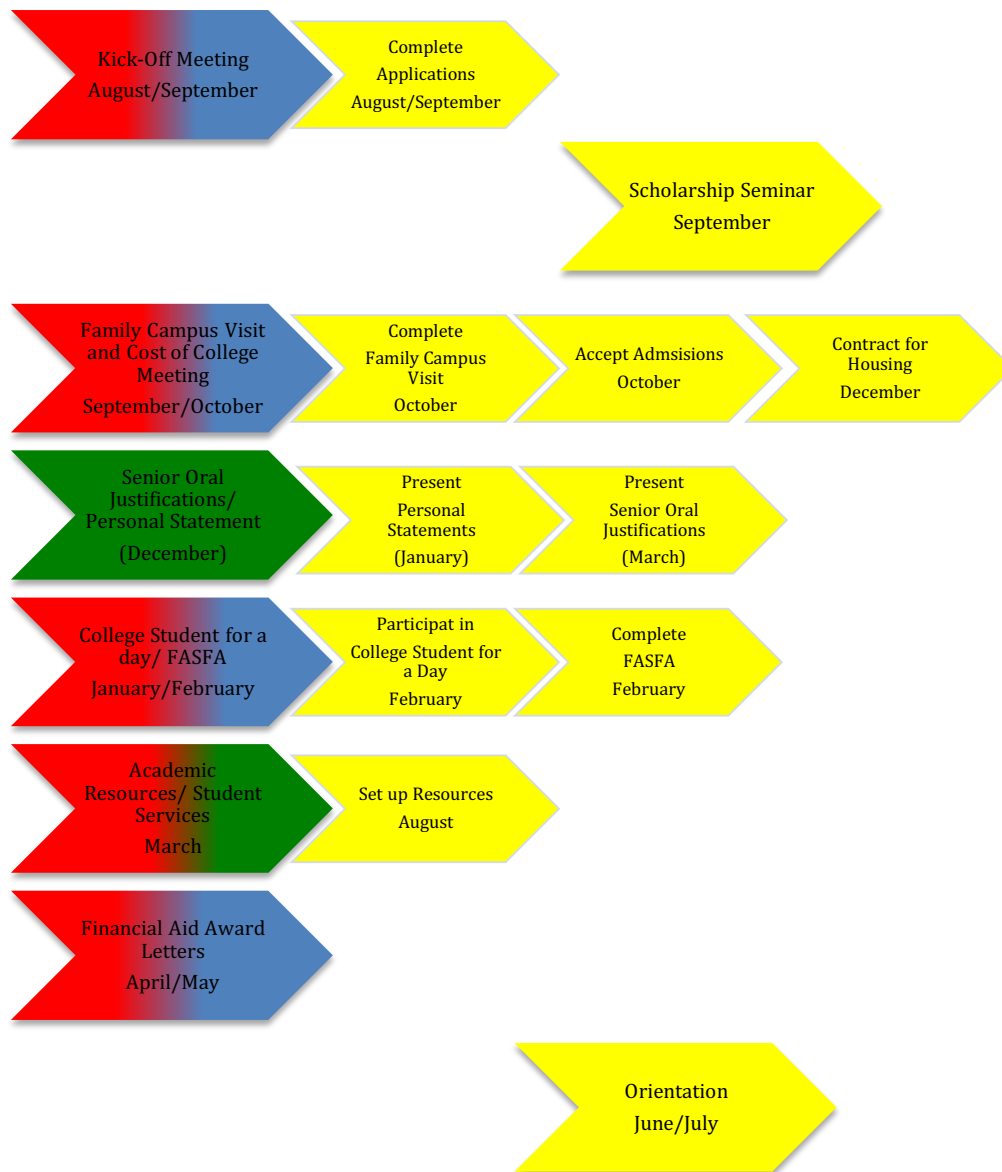
To achieve these goals, the Countdown to College program consists of two components: Workshop Series and College-Going Actions (Figure 2). The Workshop Series serves as a gathering place for all of the members of the college-going community. It provides a venue for regular, face-to-face interactions and is the primary space for connections among university staff and students and families. The Workshop Series

consists of six sessions designed for information sharing, formal and informal questions and answers, and preparation for the 11 College-Going Actions students/parents need to complete. The six sessions are: Kick-off; Family Campus Visit and Cost of College; Senior Oral Justifications and Personal Statements Hearings; College Student for a Day and Free Application for Federal Student Aid (FAFSA); Academic Resources and Student Services; and Financial Aid Award Letter Reviews (Table 1).

The College-Going Actions of the Countdown to College program consist of the tasks and processes students and parents need to engage in and complete to enroll in college prepared to earn a bachelor's degree. The College-Going Actions allow students to increase their college aspirations, complete and submit college applications, employ their knowledge of college costs and their own financial aid awards to develop a financial plan to pay for college, and finally, to enroll into college. The Countdown to College program consists of 11 College-Going Actions; they are: Complete College Admissions Applications, participate in Scholarship Writing Seminar, Complete Family Campus Visit, Accept College Admissions, Contract for Housing, Present Personal Statement Hearing, Prepare and present Senior Oral Justification, Participate in College Student for a Day, Submit FAFSA, Set-up Academic Resources, and Participate in Orientation (Table 2).

Table 1: Description of Countdown to College Workshop Series Sessions

Workshop Series sessions	Description of session
Kick-Off	Overview of the Countdown to College program including sessions and College-Going actions. At this session students apply to Iowa State University.
Experience Iowa State, Housing and Campus Visit	Purpose and goals of campus visit are introduced. Students and families discuss strategies for getting the most out of the family campus visit. Cost of college attendance and strategies for financing the cost are discussed. Various housing options are discussed with students and families along with how to contract for housing through Iowa State University.
Senior Oral Justifications and Personal Statement Hearing	The group presentation content and format of Senior Oral Justification are introduced, and individual Personal Statement Hearings expectations and requirements are discussed with students and parents.
College Student for a Day and FASFA	The purpose, goals, and strategies for maximizing the College Student for a Day experience are discussed. The requirements, application process, and deadlines for FASFA are presented.
Academic Resources and Student Resources	An overview of academic and student services the university provides are presented. Discussions and interactive activities are conducted to empower students to succeed their first three semesters.
Financial Aid Award Letters	Individual meetings are held with students and families to review the financial aid provided via the university and discuss personal circumstances related to financing college.



**Legend:**

Red - Goal 1. Increase and expand students' and families' comfort in and knowledge of college-going process.

Blue- Goal 2-Empower students and families to actively engage in the college-going process.

Green-Goal 3- Facilitate students' success in the first three semesters of college.

Yellow -Countdown to College College-Going Actions

Figure 2: Countdown to College Workshop Series Sessions and College-going Actions

Figure 2 is a diagram of the components of the Countdown to College program. The arrows show the connection among the Workshop Series sessions and the College-Going Actions. The left column of large arrows shows the topics in order of the Workshop Series sessions. The color of the large arrows refers to the Countdown to College goal(s) addressed by the workshop session. The smaller yellow arrows represent the College-Going Actions. Typically, the Workshop sessions lead to the College-Going Actions. The month in which the sessions and actions occur is stated on each arrow to indicate the pacing and flow of the Countdown to College program.

**Countdown to College Goal 1: Increase and expand students' and families' comfort in and knowledge of college-going process**

A fundamental objective of the Workshop Series is to increase and expand students' and parents'/families' comfort in and knowledge of the college-going process. Five of the six sessions of the Workshop Series address this goal; they include: the Kick-off session, Housing and Cost of College session, FASFA and College Student for a Day event, Academic Resources and Student Resources session, and the Financial Aid Award Letter Review session (Table 3). During the sessions, various university staff members lead the college-going community by presenting essential information about the various steps of the process, conducting hands-on activities to more tangibly illustrate the key points, as well as interacting with individual students and families to discuss their particular contexts and situations.

The Kick-Off session of the Workshop Series provides an overview of the entire year-long process, and students formally apply to university. This session is designed to show how the Countdown to College program is organized and to get students/families

immediately active in college-going process by applying for admissions to the university. By empowering students to apply for admission with enrollment staff present to answer questions, this session assists students/families to initiate their college-going process. Completing and submitting the college application early in the school year allows students and parents to then start thinking about next steps, such as housing. Students who apply and accept admissions by the second session are able to consider and contract for housing options - selecting their preference earlier than most students.

Like many other colleges, Iowa State University has had record enrollments for the past several years, resulting in an increase in students who need housing. Completing the application and accepting admissions early places Countdown to College participants in an empowering position to obtain their housing preferences for their first year of college (although not obligating them to university housing).

The Cost of College and Housing session provides students and parents with their initial opportunity to see the actual costs of attending the university as well as a chance to learn about the variety of methods for paying for it, such as scholarships, grants, and loans. This session sets up the conversation about the FASFA. The FASFA session emphasizes the importance and need to complete and submit the form to the federal government. In addition, participants are introduced to community resources that provide 1-on-1 assistance to parents in completing and submitting the form. In the session, the fact that many universities have priority filing dates is stressed. If students miss the FASFA priority deadline they may lose out on aid that they may have qualified for at the university. Sharing this information early, in a variety of formats, and multiple times

throughout the Workshop Series assists students and parents to realize the importance of the FASFA and the interrelationship of various components of the college-going process.

As part of the college-going community, students and parents have regular and on-going interactions with university admissions staff. These interactions allow students and parents to build personal connections with individuals who are knowledgeable in the admissions process of the university and in college-going in general. As a result of these relations, both students/parents and university staff can contact each other outside of the workshops to address questions, and gain/share more information. This level of personal access increases students'/parents' knowledge of and comfort in the college-going process. For example, in addition to earning the Science Bound Tuition Scholarship, one student was also offered the George Washington Carver Tuition Scholarship for honor students provided by the university. To help determine which scholarship to take, the student reached out to university staff and discussed at length the respective advantages of each scholarship. The student also spoke with family members and took time to make the decision. Having an established connection with university staff helped the student to determine which scholarship would best meet her needs. The student chose the George Washington Carver Tuition Scholarship knowing that she would still have social and academic support and resources from Science Bound, and would be able to harness support and resources offered through the honors program as well.



Table 2: Descriptions of Countdown to College College-Going Actions

College Going Action	Description of College Going Action
Complete Admission	Students apply for admissions to Iowa State University with admissions staff.
Scholarship Writing Seminar	Students learn about scholarships, how to write scholarship essays and personal statements, and begin writing for scholarships.
Family Campus Visit	Families visit the college campus to experience the environment, learn about majors, housing, and interact with students, professors, and staff
Accept Admissions	Students need to accept their admissions by paying the acceptance fee or by deferring their payment and accepting admissions via email.
Contract for Housing	Students log into their university account and select up to 12 housing options based on their preference and submit the contract to the department of residence.
Personal Statement Hearings	Students and family members meet one on one with a Science Bound staff to assess their college readiness, review enrollment status, outline next steps, and answer questions.
Senior Oral Justifications	Seniors give formal presentation on high school experience, plans for college, college readiness, and advice to underclass Science Bound students.
College Student for a Day	Students follow a college student in area of interest for the day to experience college life, meet advisors, and talk to professors.
Complete FASFA	Students and parents complete forms and submit income data before the deadline.
Set up Resources	Students will know of the different resources available to them and once on campus utilize those resources.
Orientation	Students will sign up for a two day orientation where they will meet with an adviser, sign up for classes, set up their email, and get their student ID.

**Countdown to College goal 2: Empower students and families to engage in the college-going process.**

The College-Going Actions of the Countdown to College program empower students and families to engage in the college-going process. This is further boosted by incorporating an immediate functioning dimension to the Workshop Series. Students and families walk away from the Workshop sessions with the knowledge, motivation, and ability to engage in the next step of the college-going process. The Workshop sessions that help meet this goal include: Kick-Off, Cost of College and Housing, and the FASFA sessions. The College-Going Actions that meet this goal are: Family Campus Visit, Scholarship Writing Seminar, College Student for a Day, and Orientation (Table 3). A description of the Workshop sessions that meet this goal are presented followed by a description of the College-Going Actions.

During the Kick-Off session students immediately have the opportunity to complete and submit their application to the university; thus engaging right away in the process of college-going, which allows them to proceed to the next steps.

As part of the Workshop Series, a preparation session is held to prepare students and families for a one-day Family Campus Visit. In this session, students and parents learn the purpose and importance of campus visits and the types of information they will gain by participating in the campus visit. In addition, the parents and students brainstorm questions that they may want to ask during the visit. This is helpful to students and families, who may be new to the college-going process and unfamiliar with higher education, gain courage and confidence to ask their question. This also affirms and reaffirms that their questions are relevant and that they should not be shy in speaking up

during the college visit, as that is the purpose of the visit. This session adds to their interest and motivation to engage in this important part of the college-going process.

Table 3: Countdown to College Workshop Sessions and College-Going Actions by goal

Goal	Workshop Sessions	College-Going Actions
Increase and expand comfort in and knowledge of college-going process.	Kick- Off Meeting Family Campus Visit and Cost of College Meeting College Student for a Day and FASFA Meeting, Academic Resources and Student Services meeting Financial Aid Award Letters	Application Family Campus Visit College Student for a Day Set up Resources
Empower students and families to actively engage in the college-going process.	Kick-Off Meeting College Student for a Day and FASFA Meeting Financial Aid Award Letter review	Complete Admission, Complete Family Campus Visit, Accept Admissions, Contract for Housing Complete FASFA Orientation.
Facilitate student's success in the first three semesters	Senior Oral Justifications and Personal Statement Hearing meeting Academic Resources and Student Services meeting.	Personal Statement Hearings Senior Oral Justifications Setting up Resources.

During the Housing session, handouts with various housing options and websites with in depth information on housing options are provided for the students/parents to review. This introduction, along with seeing and discussing housing possibilities for college together as a community, encourages students and families to envision their housing options and start the process of deciding housing arrangements that will best meet the student's needs in college.

During the FASFA Workshop session student and families learn the details of what is needed to complete the FASFA as well as the variety of resources, such as grants and loans, that the FASFA can provide to students. Additionally, in the session students and families are introduced to community resources that will individually assist them in completing the FASFA. Students and parents can schedule a 1-1 meeting with community contacts for assistance in completing the FASFA. The ability to do this at or immediately after the session allows participants to initiate this essential step of the college-going process.

The College-Going Actions are the steps students and families must take to go to college. By articulating these actions as specific tasks or procedures for students and families to complete, the act of college-going becomes more doable and manageable. In the Scholarship Writing Seminar students learn about the wide variety of scholarship opportunities, how to write scholarship essays, and they have the chance to collaborate in small groups on essay drafts. The Scholarship Writing Seminar enables the students to start writing essays for scholarships that will help them pay for college and to write essays for admission to colleges that require personal statement essays.

During the Family Campus Visit students learn about the university through student and faculty panels; they visit academic departments and receive information on prospective majors, programs and services, and physically tour the campus. This allows the students along with their family members to experience the college or university. The visit helps students and families determine if the university is the right fit for them.

The College Student For A Day event allows the high school students to experience college life from the perspective of a current student. Each student is paired

with a college student in the major areas of study in which they have interest. For the day, the high school student traverses the campus with the college student attending courses, speaking with professors, visiting the library, student union, and dining facilities.

Throughout the day, the high school student has a personal guide to discuss the nuances and realities of going to college. The College Student For A Day experience engages the students in the college-going process by allowing the high school seniors to experience a typical day at college and providing them the ability to see themselves as a college student.

The culminating College-Going Action for the students is Orientation.

Orientation is a university-managed function for all new students and generally occurs in the summer prior to the start of the fall semester. In this final step of college enrollment; the students meet with their advisors, enrolls in their first semester's courses, and obtains their student ID card.

**Countdown to College goal 3: Facilitate students' success in the first three semesters of college.**

The third goal of the Countdown to College program is to facilitate the students' success in the first three semesters of college. This goal is met through two Workshop sessions and three College-Going Actions that have the students thinking about how to prepare for college, their strengths and weakness, and how to make use of campus resources that can help them achieve success. The Workshop Series sessions designed to meet this goal are: Personal Statement Hearings/Senior Oral Justification and Academic Resources sessions. The College-Going Actions designed to meet this goal are: Personal Statement Hearings, College Student for a Day, and the Senior Oral Justification. (It is

worth noting that the Personal Statement Hearing and the Oral Justification are both a Workshop session and a College-Going Action). During the Workshop Series the students are introduced to these topics and tasks, thus allowing them to start to think about and develop their presentations for the students and staff (i.e., Personal Statement Hearings and Senior Oral Justification).

The Senior Oral Justification/Personal Statement Hearing Workshop session is designed to guide students to reflect upon their strengths and weaknesses in light of their college plans and to leave a legacy for their Science Bound classmates who are in high school. In this workshop, the students are guided through processes to prepare their Senior Oral Justification presentation and an essay for the Personal Statement Hearing. The College-Going Actions of preparing and delivering a formal group presentation and writing and presenting a personal essay compels students to reflect upon, analyze, and make sense of their past in light of their college aspirations.

For the Senior Oral Justification all the seniors at their local high school come together and present their experiences in high school, Science Bound, and extra-curricular activities to the younger students. The aim of the presentation is for the seniors to reflect on their high school experiences and leave a legacy as they graduate from high school and the Science Bound High School program. Included in the presentation students share their college plans, what they will study in college as well as their strategy for excelling in college. In addition to the group presentation, the seniors write a paper reflecting on their group's collective experience and prepare a class portfolio. The presentation concludes with a question and answer session with the Science Bound high school students and staff.

The Senior Oral Justification is a College-Going Action that looks to meet the goal of facilitating students' success in the first three semesters by having students reflect on their strengths and weaknesses and talk about their past experiences. Seniors, working as a group, reflect upon what they did well in high school in order to continue that strength into college. Students also reflect on their weaknesses and challenges they experienced while in high school, and set plans on how they are going to work through the weaknesses so that they are not hindered with them in college. Seniors also get to reflect on the experiences that they have had in Science Bound. These experiences, good and bad, can remind the seniors of what can help and what might hinder their success.

As a College-Going Action, the Personal Statement Hearing is an in depth individual meeting with each senior, his/her parents/family, and Science Bound staff. In this hearing, students are expected to prepare and share a written personal statement about themselves and be ready to answer questions about their college readiness. In this meeting, seniors read aloud their personal statement to the Science Bound staff and their family members. Then, students are asked questions about their engagement and completion of College-Going Actions, the area/major of study they want to pursue, and their feelings about going to college (Table 4). The conversation around feelings about going to college expands to include those of the family members. In this way, the impact of the student going to college can be acknowledged and expressed by all those who are close to the student. The Personal Statement Hearing concludes with the student explaining their summer plans. Students are encouraged to participate in a summer bridge program that allows them to take college courses or engage in research in their field of interest before their first college semester.

The Personal Statement Hearing meets the goal of facilitating students' success in their first three semesters by engaging the students and families in conversations around the College-Going Actions (Table 5). The Hearing also allows families and students to talk about what worries them and start addressing those worries or seek out resources that may help ease the worries before enrolling in a higher education institution.

The Academic Resources and Student Resources Workshop session provides students and families an overview of campus resources available to assist students in being successful in college; the resources presented include Supplemental Instruction, Academic Success Center, Multicultural Student Affairs, and Multicultural Liaison Officers. Supplemental instruction (SI) sessions are review sessions for courses students across the university have traditionally found to be challenging. The Academic Success Center provides students with programs and resources in order to reach their academic goals. The services provided by the center include study skills, tutors, time management resources, academic coaching, goal setting, and motivation resources. The Multicultural Student Affairs Office provides many resources to support students including a small group tutor each semester, leadership opportunities, and study and social space for students of color to come together. In addition to advisors, each college in the university has a Multicultural Liaison Officer who is available to assist and support students of color specifically within the academic disciplines of the college.



Table 4: Questions asked of seniors at the Personal Statement Hearing

Question Topic	Questions
College Readiness	What are your plans after high school? Where do you plan to attend college? Have you applied and been accepted? What are your next steps in the college-going process? What are your summer plans?
Major area of Study	Have you done research on the major(s) you are interested in choosing? What college courses will you have to take and do well in? Do you know anyone in your major?
Financing College	How do you plan to pay for college? Have you applied for any scholarships? Have you been awarded any scholarships? Do you plan to apply for other scholarships?
Feelings about College	How ready do you feel for college? What excites you about college? What worries you about college? If you had to go to college next week, how would you feel?

By introducing the resources on campus, the Countdown to College program aims to prepare students for the academic and social challenges of college so the students can anticipate and plan how to meet the challenges. By showcasing the university's academic resources students and families know about the options that can help students succeed once on campus. Students can actively seek out these resources to better position themselves to succeed, instead of learning about the resources during the semester when they might be overwhelmed, struggling, or after the semester has concluded.

The College Student For A Day event allows students to see what a day in the life of a college student in their prospective major is like. Students gain an idea of what classes they will take, accessing key locations and resources on campus, and a sense of logistical matters related to balancing classes, social interactions, and living on a college

campus. The College Student For A Day experience is designed to help students plan and prepare for the realities of college and thus persist through the first three semesters.

The College Student for a day meets the goal of helping students persist through the first three semesters of college by providing students with experiential knowledge of what to expect when they enroll. The students are able to gain this information about study habits, time-management, and college-level academic expectations prior to being on campus. The ability to know before being on campus empowers students to use that knowledge and experience right away instead of having to find out while struggling at college.

### **Summary**

The Countdown to College program is an academic year long program that empowers and engages students and families in the college-going process. The program has three overarching goals that are addressed through its two components. The two components of the program are the Workshop Seminars and the College-Going Actions.

The goals of the Countdown to College program are to: increase and expand comfort in and knowledge of college going process, empower students and families to actively engage in the college going process, and facilitate students' success in the first three semesters of college.

The Workshop Series of the Countdown to College program provides the members of the community a place to come together for regular face-to-face interactions that focuses on information sharing and empowers students and families to engage in the college-going actions. The College-going Actions consist of tasks and processes students and families need to complete to enroll in college.

**CHAPTER 4 COUNTDOWN TO COLLEGE: CREATING A COLLEGE-  
GOING COMMUNITY AMONG STUDENTS, PARENTS, AND COLLEGE  
STAFF TO INCREASE COLLEGE ENROLLMENT AND PERSISTENCE  
AMONG STUDENTS OF COLOR**

Community is defined by the Merriam-Webster Dictionary as “a unified body of individuals, or a group of individuals who have the same interests.” The human psychological need for and benefits of community are well-documented as humans are social beings and thus require human interaction and community to thrive (Battistich & Hom, 1997; Baumeister & Leary, 1995; Osterman, 2000). The building of community among a group of people is important, as having a community provides connections, support, and belonging for individuals (Bettez & Hytten, 2013). The purpose of this chapter is to present how the Countdown to College program cultivates community among the participants to help students and parents to engage in and complete the college-going process and enter college with a strong sense of mattering and belonging. This chapter is divided into four sections: a brief overview of mattering and marginality as related to transitioning to college, the definition and discussion of building community, the definition and discussion of being in community as a part of the college-going process, and a definition and discussion of decentralized community as a component of the Countdown to College program.

**Mattering and marginality**

Two important concepts that affect the building and maintenance of community are mattering and marginality (Schlossberg, 1989). According to the Merriam-Webster dictionary “to matter” means to be important. Mattering is “the belief that, right or

wrong, we matter to someone else” (Schlossberg, p. 2, 1989). Mattering, according to Rosenberg and McCullough (1981), has four components: attention, importance, ego-extension, and dependence. Expanding this research, Schlossberg (1989) added appreciation as a component that makes people feel important and as though they matter. Marginality, on the other hand, is the sense of not belonging, or feeling out of place (Schlossberg, 1989).

The five components of mattering (attention, importance, ego-extension, dependence, and appreciation) can make the individual feel as though they are significant. Attention refers to being noticed by another individual (Rosenberg & McCullough, 1981). Importance is feeling as though someone cares for us, or is concerned about our fate. Ego-extension is the belief that people will celebrate your accomplishments, or empathize with your failures. Dependence is the sense that we rely on others, and have their support, and feel like others depends on us as well. Appreciation is the feeling that others notice our efforts and appreciate our work (Schlossberg, 1989).

Students are vulnerable to feeling marginalized during periods of significant transition, such as the transition from high school to college (Schlossberg, 1989). The probability of feeling marginalized increases when individuals transition into new roles that are not similar to their previous roles (Schlossberg, 1989). For example, students change roles when they move from the high school environment with parental supervision and teacher support to the college environment with personal independence and professors, who due to the number of students, may not have a personal connection with the student. Thus, when students transitions from high school to college, they may experience feelings of marginalization.

The level to which individuals feel that they belong has a direct impact on the level to which they will actively participate or engage in an event. Quite often people will not participate or even attend an event if they do not feel as though they belong. The building of community among the participants in the Countdown to College program, and the establishment of personal connections among individual students/families and university staff is intended to develop a sense of mattering and belonging in college among students and parents as they engage in the college-going process.

The Countdown to College college-going community consists of individuals from two groups: the high school seniors and their parents/family members and the university staff consisting of Enrollment and Science Bound staff members. In the context of the Countdown to College program, there are three stages of community: building community, being in community, and decentralized community.

### **Building community**

Building community in the Countdown to College program is focused on creating an environment where the students and families feel a sense of belonging and a part of a group of individuals who have similar goals of enrolling in college. In this section, I discuss the importance of building community, how community is built in the Countdown to College program, and how specific workshop sessions and College-Going Actions foster building community among the participants.

Building community is an important aspect of the Countdown to College program as connections among staff, families, and students allow for individual students to believe in their own self worth (Schlossberg, 1989). The belief in one's own self worth is an important aspect of transitioning to college. This is true for all students, but may be of

greater significance for the students of color in the program who were transitioning from high schools with greater ethnic diversity than that of the large, land-grant predominately White institutions (PWI) they planned to attend for college. Solórzano, Ceja, and Yosso (2002) found that the feeling of marginality can occur for students of color at PWI when they experience racism through micro- and macro-aggressions. This feeling of mattering and feeling like the students belong, that they make a difference, and that others care about them, is important especially during transition as the potential for marginality arises (Schlossberg, 1989).

Building community in the Countdown to College program begins with creating the community environment. Creating the community environment starts before the group comes together for the initial workshop session. The parents and students receive information about the Countdown to College program through mailings and information dissemination at the school before every workshop session. The letters, via the postal service as well as email messages, are sent to the families and students to inform them of when and where the session will be, in both English and Spanish. Additionally, the day before the event students and families are called to remind them of the upcoming Countdown to College session.

Building community in the Countdown to College program is developed through the casual and informal interactions among students/families and university staff that occur before and after the sessions. University staff arrives early to the sessions to greet students and families as they come into the event. The pre-session interactions are intentional in that each student and family member is greeted as they arrive, and the university staff will initiate conversations to get to know the students and families. This

helps to build relationships among the university staff and the students and families, and it also leads to impromptu questions from the students and families about the college transition.

This college-going community allows for students, parents/families, and university staff to feel like they matter and also to feel comfortable engaging in discussions around college-going. The university staff also is intentional in staying late after the meetings to engage with students and families. This allows university staff to speak with individual students/families regarding personal circumstances that may be relevant to various College-Going Actions. Building this type of environment encourages participation in the college-going community; and it also enhances the experience of the students and parents during their transition to college as they develop contacts at the university they feel comfortable seeking out these individuals to ask questions or clarify information. These types of regular connections and interactions among university staff and students/parents develop a positive sense of mattering through attention and importance, with individualized attention from university staff.

The college-going community builds at the Kick-off session of the Countdown to College. Students, families, and university staff meet for the first time as a large group, and begin the college-going process. Community develops in part because of shared interests: everyone there is interested in the college-going of the students. The parents/families and university staff want to see the students not only go to college but also be successful.

During the first meeting, as stated previously, students complete their admissions applications to the university; in a group, each student works to complete his/her college

admissions application. This is also a time where students connect with students from their high school, but also with other Science Bound students from other schools who also will be entering college. These are students with whom they may take courses together in college. This college-going community continues to build throughout the Workshop Series as the students continue to engage together in the college-going process. Students and families also discuss as a group some of their hopes and fears for the upcoming year. This provides the families and students a space to hear what others are hopeful for and what their fears are, which they might be feeling as well. This helps build the college-going community through students and families getting to know each other and to see that they are in this journey together.

### **Being in community**

In this section I describe two ways in which the Countdown to College program engages students and parents to be in and thus function in community. Being in community can be seen in the students' and parents' interactions with one another and through their participation in the College-Going Actions.

The college-going community is in action during the College-Going Actions, most notably during the Family Campus Visit, College Student for a Day, and the Scholarship Writing Seminar. The Family Campus Visit, in particular, is being in community as students and families go on the college visit together as a group. Science Bound provides transportation to the event and holds an opening session for the students and families which university staff also attends. The university staff reiterates and reinforces content shared during the campus visit workshop session. This bolsters the concept of mattering (via importance) as the university staff hosts a welcoming and



preparation session only for the Science Bound students and families. This speaks to the importance of the students and parents/families, and also to the importance of the event that they are attending. It shows that they are important, as the university staff is caring about the information the students and families will gain from the visit. It also provides the students and families with the space to talk about and engage with one another before the event.

When the students and families conclude their visit to campus, the university staff holds a debriefing session with the group of students and parents about the visit. The students and parents are asked what they learned, experienced, and are taking away from the campus visit. This also allows the students and families to share with each other information that they have gained that they consider important for the community to hear. Finally, any remaining questions students and parents have are addressed.

During the College Student For A Day event, high school seniors and juniors spend the day on the college campus with an undergraduate student who is majoring in the field of study of interest to the high school student. The high school seniors are paired with a college student and traverse the campus with the college student. In so doing, the high school seniors attend classes with their college student, eat lunch at the dining halls, meet with advisors, and learn more in depth from the college student about the major. Specifically, seniors have the opportunity to shadow someone in their prospective major and talk with advisors, staff, and professors in their field of study before enrolling at the university. At the end of the day, the high school students come back together as a group and share what they have learned and their experiences with each other as group.

The College Student for a Day event also is showcasing community in action through students attending together. This visit is different from other college visits, as the community will travel together from their schools to the university. Community in action can also be seen through students who have encouraged each other at various stages of the process to complete College-Going Actions. For example, students check on each other to ensure their College Student for a Day forms were submitted and then participate in the event together. At the end of the day students are brought together and debrief about the day. This is showcasing community in action in that the students are on a college campus together, even though they are in high school, and they are discussing what they have learned and experienced on the college campus that day.

During the Scholarship Writing Seminar students from all three Science Bound school districts come together to learn about and apply for scholarships. At this seminar students start to utilize their college-going community by working together finding scholarships, writing essays, and revising their essays. Interactions among students continue after the Scholarship Writing Seminar as they have conversations around scholarships outside of this seminar and encourage each other to find and apply for scholarships. The sharing of scholarship information with one another and providing support to each other is illustrative of the students being in community. Furthermore, this manner of engagement in community heightens levels of mattering (Solomon, Watson, Battistich, Schaps, & Delucchi, 1996). Specifically, students are reciprocally placing importance on sharing resources with each other and are showing concern for one another's fate. Also students are depending on one another as a support system for where to find additional resources and in persisting in applying for scholarships.

**Decentralized community**

At the end of their senior year the college-going community that is established through the Countdown to College program and built and lived through the Workshop Series and College-Going Actions becomes decentralized and turns to a more individual focus for the students and parents. The college-going community continues, yet takes on a decentralized structure as it shifts from an intentional group atmosphere to the students completing the remaining College-Going Actions individually. Although the college-going community may not again take on the formal groupings that occurred with the Workshop Series, the connections and relationships among individual and small groups of students, parents, and university staff may continue and further develop in the future. The decentralized community occurs in the last two College-Going Actions: the Financial Aid Award Letter Review and the Orientation.

The university prepares a financial aid award letter each year for every student who will be enrolled at the university. The Financial Aid Award Letter Review is to assist students and families in understanding the content and process for utilizing the financial aid award they will receive. In the Financial Aid Award Letter Review, each student/family meets with university staff one-on-one to discuss the financial aid that is available to the student. In this way, the college-going community is a decentralized community in that students and families do not experience or discuss their financial aid in group settings or as part of the larger group. Instead this portion of the College-Going Action is done on an individual family basis. Additionally, in completing this step, students/ families may not see others participating in this College-Going Action.

The Orientation is typically the final College-Going Action students complete and is the culminating step to entering college. Students individually schedule the date they will participate in new student orientation at the university, and they may or may not see other Science Bound students during the event. Students and families participate in this college-going event by themselves.

The decentralized community emerges as part of the Countdown to College program at the end of the students' senior year of high school. The Countdown to College program has created a college-going community among the participants by creating the environment for community, employing workshop sessions and College-Going Actions to build community and empower participants to be in community with each other as they engage in the college-going process. As students near the completion of the college-going process, the community takes on a decentralized structure where the participants engage in College-Going Actions on an individual basis, without the formal group structure. Students and families do not engage one another in the financial aid award process or the orientation.

### **Summary**

The Countdown to College program builds community as it provides connection, support, and a sense of mattering. The program develops this through three stages: building community, being in community, and decentralizing community. Through the development and use of the community the program is able to further engage students in the college-going process.

The Countdown to College program builds community through the atmosphere created by the staff. By arriving early, knowing students' names, and having informal

conversations with students and families before and after the program. By being in community students and families participate and interact together while completing College-Going Actions. As the year-long program concludes, students and parents no longer meet together formally, yet continues as a decentralized community. As such, student interactions may continue on an informal basis as they enter college.

## **CHAPTER 5 CONCLUSION**

The Countdown to College program is a model for the brokering approach that can be used to engage students in college access. The importance of this approach can be seen in the inequities in college access for students of color due in part to the under engagement of students in the college-going process.

Access to formal education for people of color was at first non-existent (Kluger, 1976) and later due to policy and legislation changes, allowed for limited access (Orfield, 1990; Kim & Rury, 2007; Harper, Patton, & Wooden, 2009). Although access to higher education has increased, the inequalities are still visible (Ross et al., 2012; Roderick, Nagoka, Coca, & Moeller, 2008; Cunningham, Erisman, & Looney, 2007). Although students of color have the same aspirations and apply at the same rates as their White counterparts the enrollment rates are still unequal (Ross et al., 2012). These inequities have been examined through various studies showcasing how students of color are being deterred from participating in college (Ross et al., 2012; McDonough, 2005; Irizarry, 2012; Cunningham et al., 2012; Hill, 2008).

The literature on college access models illustrates that students must have the aspiration, be prepared academically, take entrance exams, complete applications and finally enroll (Horn, 1997). The Balanced Access Model also accounts for families' socio-economic status and how that affects each of the stages (St. Johns, 2002). The stages are also affected by the low expectations of teachers and counselors (Irizarry, 2012; Caton, 2012; Solórzano & Ornelas 2002; Landsman, 2004; Ladson-Billings, 1997; Solórzano, 1997, Jussim, Eccles, & Madon, 1996; Blanchett, 2006; Darling-Hammond & Friedlaender, 2008). Students of color in urban settings also have lower access to school

counselors, and the ones they do have access to often do not see their jobs as facilitating college access (McDonough, 2005). These lower expectations can affect students' aspirations to go to college, as students may start to internalize those expectations and lower their aspirations. Counselors' and teachers' low expectations of students of color can also impact the students' class schedules. Students of color may not enroll in AP courses due to teachers and counselors not pushing them to take them or even encouraging them not to based on the rigor. By doing so students are not becoming academically prepared for college.

Students of color are also being engaged differently in the college-going process. Students of color are not receiving college information and are not being supported in the college-going process (McDonough, 2005; Cunningham et al., 2007; Irizarry, 2012; Ross et al., 2012). We also see different types of college linking approaches being used with schools that have a high proportion of students of color using a traditional college linking approach. This approach focuses on only providing only a small segment of the student population information on college-going (Hill, 2008). The brokering approach looks to engage students and families with the information needed to engage in the college-going process (Hill, 2008). This is the approach that the Science Bound Countdown to College program looks to employ in order to facilitate access to higher education.

The Countdown to College program demonstrates how the brokering model works. The program intentionally engages students and families in the college-going process through bringing students and families together and providing information needed to engage in the process. The program also actively engages students in College Going Actions that keeps students on track to enroll. One the key elements in the

program is the invested and personal connection by the university staff with the students and families. Through this investment and personal connection the staff monitors the progress of the students, which creates a follow-up method. This allows the staff to remind students of needed action, or for students to follow up with university staff on the status of their admissions or next steps. This type of brokering approach and system for follow up facilitates two-way communication and support. This enhances college access for students, as they are encouraged to go through the process. It also sets up the expectation that the students will enroll in college, which also helps facilitates access.

The Countdown to College program also builds a community and uses this to help facilitate access. A key elements of the program is that of vested interest in the students going to college. This vested interest leads to follow up and communication with the students. The community of students who are all on the path to college helps to facilitate access as well. The students will push each other and also remind each other of the upcoming steps. Students will also help each other with the scholarships and encourage one another to go to an upcoming meeting. The community aspect of the program helps facilitate the two-way communication between university staff and students. It also provides the follow-up method in which staff can encourage students to take the next step, or students can follow up with questions they may have at that time.

The Countdown to College program is a model that can be used to help facilitate access to college. The importance of and need for such programs can be seen by the gaps in access for students of color. The Countdown to College program has the basic assumption that students will not only participate, but will also persist in higher education. Due to this assumption, the program actively engages, supports, and



encourages students to participate in the college-going process. It is important in the process to encourage each student to find the college or university that is right for him/her. Encouraging students to participate in the college-going process should be one where they are encouraged to look at multiple schools and find the place that they will succeed. College access is defined as the participation and persistence in college, so the students must find a college they will not only go to, but one where they will be able to earn a college degree.

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